

Estimate of the 2007 Harvest  
of Spring Coastal Migrant Striped Bass in Chesapeake Bay

Prepared by

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This report presents the calculation of the 2007 Maryland spring harvest of coastal migrant striped bass in Chesapeake Bay. The method used to estimate the spring trophy season harvest in Maryland was presented in detail in Jones (2003), Barker and Sharov (2004) and Sharov et al. (2005). Results of the 2007 calculations are summarized in Table 1. The specific steps used in the calculation are as follows:

*Estimation of harvest.*

- Maryland charter boat logbook reports provided the census values of daily charter boat harvest (Table 1).
- NOAA MRFSS survey provided estimates of harvest for MD private/rental boats for Waves 2 and 3 (Table 1).
- VMRC provided the preliminary estimate of VA migratory striped bass harvest.

*Harvest apportioned by time.*

- The migrant harvest season overlaps parts of both Wave 2 and 3 of the MRFSS survey. Length distribution of the harvest is known to change over this time period, so total harvest was apportioned into 2-week intervals between April 21 and June 15.
- All Wave 2 landings occurred in the last 2 weeks of the wave.
- 2-week interval proportions for Wave 3 landings were developed as the proportions of the harvest registered in the Maryland charter boat logbook reports (Table 1).
- Total Maryland striped bass harvest per interval was calculated as charter boat harvest + private/rental harvest (Table 1).

*Harvest apportioned by length.*

- Data from the Maryland DNR charter boat creel survey were used to develop the length frequency distribution of the Maryland charter boat catch for each 2-week interval (Table 2A). Data from the Maryland volunteer private angler survey were used to develop the length frequency distribution of the Maryland private angler catch and the Virginia catch (Table 2B).
- Each interval's harvest was distributed among each 2-week interval's length frequency distribution.
- The number of migrants harvested in Maryland during this period was determined by applying length-specific migration probabilities. These probabilities were derived from the estimate of the number of striped bass tagged on the spawning grounds in Maryland that migrate to the Atlantic coast before December of the first year at large (Dorazio et al., 1994). The result was the migrant and resident harvest for each 2-week interval, distributed among interval-specific length groups (Table 3).
- The total 2007 Maryland spring harvest of coastal migrant striped bass in Chesapeake Bay was calculated as the sum over all length groups and 2-week intervals.
- The preliminary estimate of the migrant harvest for Virginia's portion of Chesapeake Bay was provided by VMRC, based on mandatory reporting by recreational anglers and charter boat captains (740 fish).

*Statement of harvest estimate.*

The estimate of the 2007 Chesapeake Bay spring migrant harvest is 36,328 fish. The Maryland coastal migrant harvest is 35,588 migrants (Table 1). The VMRC preliminary estimate of the spring 2007 migrant harvest in Virginia is 740 fish. The 2007 Chesapeake Bay spring migrant harvest was a 46% reduction from the 2006 harvest (67,771 fish). This reduction was achieved by the slot limit imposed in Maryland (Figure 1).

**References**

Barker LS, A Sharov 2004. Estimate of the 2004 Harvest and 2005 Quota for Spring Coastal Migrant Striped Bass in Chesapeake Bay.

Dorazio RM, KA Hattala, CB McCollough and JE Skjveland. 1994. Tag recovery estimates of migration of striped bass from spawning areas of Chesapeake Bay. Transactions of the American Fisheries Society 123: 150-163.

Jones P. 2003. Estimates of the harvest of coastal migrant striped bass in Chesapeake Bay in the spring of 2003. Report to the ASMFC Striped Bass Technical Committee, November 2003.

Sharov A, Barker LS and L Warner. 2005. Estimate of the 2005 Harvest and 2006 Quota for Spring Coastal Migrant Striped Bass in Chesapeake Bay. Maryland Department of Natural Resources, Annapolis MD.

**Table 1.** 2007 Chesapeake Bay spring striped bass migrant harvest, distributed among 2-week intervals, based on data from Maryland charter boat log reports, MRFSS Maryland recreational harvest estimate and VMRC reported migrant harvest (estimate as of 10/1/07).

	Interval	Charter Harvest (% by interval)	Md Charter Harvest	Md Private Harvest	Md Total Harvest	Md Charter Migrants	Md Private Migrants	Md Total Migrants	Va Migrants	CBay Total Migrants
<b>Wave 2</b>	Apr 1-20	0	0	0	0	0	0	0		
	Apr 21-30	100	6,364	14,766	21,130	3,612	8,627	12,239		
<b>Wave 3</b>	May 1-15	0.19	6,541	18,833	25,374	4,178	12,622	16,799		
	May 16-31	0.25	8,435	24,286	32,721	1,270	3,190	4,460		
	June 1-15	0.27	9,387	27,027	36,414	299	1,790	2,089		
	June 16-30	0.29	9,847	28,351						
	<b>Wave 3 total</b>	<b>1.00</b>	<b>34,210</b>	<b>98,497</b>					<b>740</b>	
	<b>Season total</b>		<b>30,727</b>	<b>84,912</b>	<b>115,639</b>	<b>9,359</b>	<b>26,229</b>	<b>35,588</b>	<b>740</b>	<b>36,328</b>

**Table 2A.** Length distribution of the 2007 Maryland striped bass spring season harvest as voluntarily reported by charter boat captains, by 2-week intervals between April 21 and June 15. (Shaded areas represent no-take size groups.)

<b>LGrp</b>	<b>Apr 15-30</b>	<b>May 1-15</b>	<b>May 16-31</b>	<b>June 1-15</b>	<b>Total</b>
17	0	0	1	3	4
18	0	0	104	140	244
19	0	0	267	282	549
20	0	0	175	221	396
21	0	0	144	141	285
22	0	1	153	125	279
23	0	4	113	82	199
24	0	3	136	87	226
25	0	3	75	62	140
26	1	1	72	62	136
27	3	1	57	41	102
28	64	37	43	41	185
29	217	122	40	25	404
30	259	144	46	22	471
31	283	152	50	7	492
32	336	186	37	6	565
33	423	307	36	5	771
34	446	375	46	2	869
35	383	389	31	0	803
36	8	19	24	3	54
37	2	6	29	0	37
38	1	3	20	0	24
39	3	2	11	0	16
40	0	4	8	0	12
41	20	57	5	0	82
42	62	99	5	0	166
43	33	35	0	0	68
44	14	31	1	0	46
45	6	15	1	0	22
46	5	6	0	0	11
47	2	0	0	0	2
48	0	3	0	0	3
49	2	2	0	0	4
50	0	0	0	0	0
51	1	0	0	0	1
52	0	1	0	0	1
<b>n</b>	<b>2574</b>	<b>2008</b>	<b>1730</b>	<b>1357</b>	<b>7669</b>

**Table 2B.** Length distribution of the 2007 Maryland striped bass spring season harvest as voluntarily reported by private anglers, by 2-week intervals between April 21 and June 15. (Shaded areas represent no-take size groups.)

LGrp	Apr 15-30	May 1-15	May 16-31	June 1-15	Total
17	0	0	0	2	2
18	0	0	20	4	24
19	0	0	26	5	31
20	0	0	16	10	26
21	0	0	11	6	17
22	0	0	17	6	23
23	0	0	15	6	21
24	0	0	15	8	23
25	0	0	8	4	12
26	1	0	8	4	13
27	0	2	10	1	13
28	3	2	3	3	11
29	36	10	4	1	51
30	37	17	5	3	62
31	34	19	3	3	59
32	48	21	2	1	72
33	55	36	3	1	95
34	82	49	7	1	139
35	43	48	4	0	95
36	2	3	5	0	10
37	1	3	2	0	6
38	0	0	0	0	0
39	0	0	0	0	0
40	0	2	0	0	2
41	2	3	1	0	6
42	17	12	1	0	30
43	4	17	0	0	21
44	3	6	0	0	9
45	3	3	0	0	6
46	1	1	0	0	2
47	1	0	0	0	1
48	0	2	0	0	2
49					0
<b>n</b>	<b>373</b>	<b>256</b>	<b>186</b>	<b>69</b>	<b>884</b>

**Table 3.** 2007 Maryland spring striped bass harvest, distributed among 1-cm length groups (length as total length).

LGrp (in)	Apr 21-30			May 1-15			May 16-31			June 1-15		
	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
	18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	3	0	3	5	0	5
21	0	0	0	0	0	0	3	0	3	5	0	5
22	0	0	0	0	0	0	6	0	6	7	0	7
23	0	0	0	0	0	0	7	0	7	7	0	7
24	0	0	0	0	0	0	14	0	14	12	0	12
25	0	0	0	0	0	1	12	0	12	14	0	14
26	0	2	2	0	0	0	19	55	74	23	0	23
27	1	0	1	12	12	12	23	109	132	24	0	24
28	20	15	36	19	19	34	27	50	77	36	155	192
29	104	275	379	142	142	219	38	101	138	33	78	111
30	179	410	589	350	350	481	63	183	245	43	338	381
31	271	521	791	541	541	732	94	152	246	19	468	487
32	420	962	1,382	782	782	1,089	91	132	224	21	204	225
33	653	1,360	2,013	1,654	1,654	2,279	110	245	354	22	252	274
34	805	2,370	3,175	2,631	2,631	3,523	164	667	831	10	294	305
35	771	1,387	2,158	2,876	2,876	3,909	123	425	549	0	0	0
36	17	69	87	194	194	248	103	573	675	18	0	18
37	5	36	41	203	203	221	130	240	371	0	0	0
38	2	0	2	0	0	9	93	0	93	0	0	0
39	7	0	7	0	0	6	52	0	52	0	0	0
40	0	0	0	13	144	157	38	0	38	0	0	0
41	49	78	127	183	218	401	24	129	153	0	0	0
42	152	668	820	320	876	1,196	24	130	154	0	0	0
43	81	158	239	113	1,245	1,358	0	0	0	0	0	0
44	35	118	153	101	440	541	5	0	5	0	0	0
45	15	119	134	49	221	270	5	0	5	0	0	0
46	12	40	52	20	74	93	0	0	0	0	0	0
47	5	40	45	0	0	0	0	0	0	0	0	0
48	0	0	0	10	0	10	0	0	0	0	0	0
49	5	0	5	7	0	7	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
51	2	0	2	0	0	0	0	0	0	0	0	0
52	0	0	0	3	0	3	0	0	0	0	0	0
<b>n</b>	<b>3,612</b>	<b>8,627</b>	<b>12,239</b>	<b>4,178</b>	<b>12,622</b>	<b>16,799</b>	<b>1,270</b>	<b>3,190</b>	<b>4,460</b>	<b>299</b>	<b>1,790</b>	<b>2,089</b>

**Figure 1.** Maryland 2006 and 2007 Spring Striped Bass Migrant Harvests, apportioned by length.

